

AAIB Bulletin No: 1/96

Ref: EW/C95/10/1

Category: 1.3

Aircraft Type and Registration: Cessna 336 Skymaster, G-ASKS

No & Type of Engines: 2 Continental IO-360-A piston engines

Year of Manufacture: 1963

Date & Time (UTC): 13 October 1995 at 0835 hrs

Location: Slieau Ruy, Isle of Man
(8 nm north east of Ronaldsway Airport)

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - Fatal Passengers - N/A

Nature of Damage: Aircraft destroyed

Commander's Licence: Private Pilot's Licence

Commander's Age: 52 years

Commander's Flying Experience: 320 hours (of which 160 were on type)
Last 90 days - 27 hours
Last 28 days - 10 hours

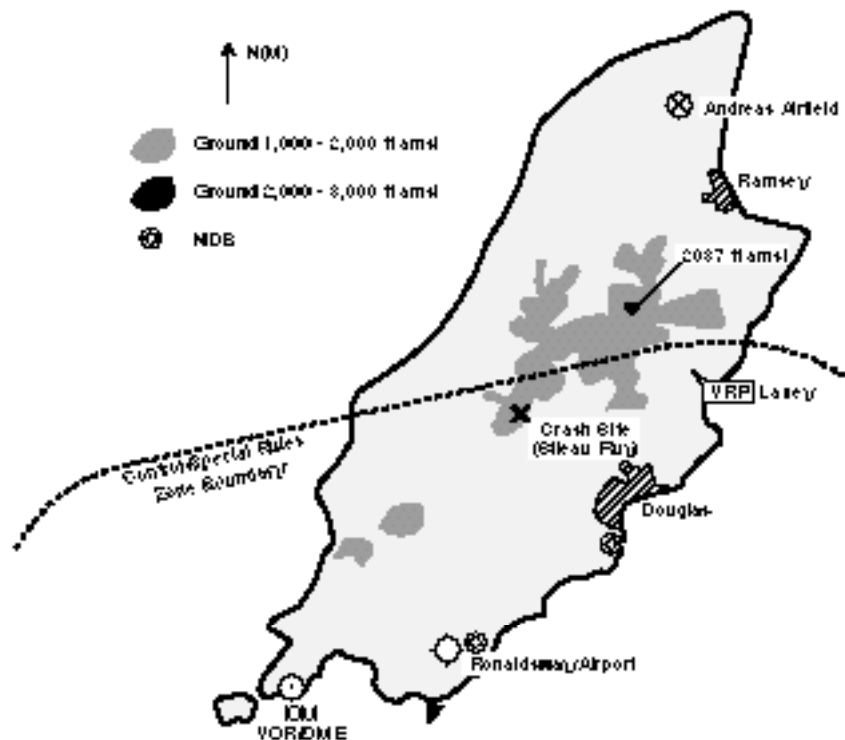
Information Source: AAIB Field Investigation

History of the flight

The pilot had kept G-ASKS at Andreas Airstrip, a privately owned airfield in the north of the Isle of Man, for the last two years. He flew it regularly, mainly between the Isle of Man and Blackpool where he had business interests. Andreas Airstrip has no maintenance, refuelling or meteorological facilities and the aircraft was kept in the open, although in a sheltered area. The owner of the airfield considered that the pilot kept G-ASKS in good condition, spending a lot of time cleaning and maintaining it. He was also aware that the pilot normally refuelled the aircraft to full tanks each time he was at Blackpool and that he had last done so on 8 October 1995 which was the last recorded day he had flown G-ASKS prior to the accident flight.

On the day of the accident, the pilot called at a friend's farm at approximately 0730 hrs and stayed for 15 minutes. During that time, he mentioned that he was waiting for the fog to clear before flying to Blackpool. He had his black collie dog with him and when he left, he also took the farmer's black and white collie bitch. It was not unusual for him to take the two dogs with him on flights. At the airfield,

he booked out in the movement's book at 0815 hrs indicating his declared destination as Ronaldsway Airport; the Prevention of Terrorism Act 1990 requires all aircraft leaving or arriving in the Isle of Man to report to a Police Examining Officer at Ronaldsway. Shortly after the pilot booked out, a local farmer, who was working in a field adjacent to Andreas Airstrip, heard the sound of power being applied to an aircraft. He looked up and recognised the aircraft as being G-ASKS. He saw it take off from Runway 11 and climb out to the east towards Ramsey. The farmer was the son of the owner of Andreas and was familiar with both the aircraft and the pilot. He considered that G-ASKS sounded normal and heard the engines for quite a while as the aircraft flew away. At the time it was a still, clear day with good visibility, although there were clouds covering the hills to the south. Over the next few minutes, various eyewitnesses reported seeing an aircraft flying over Ramsey and then following the eastern coastline down towards Laxey. The witnesses all confirmed that the



weather was clear to the north but that there were clouds covering the hills. At Ronaldsway Airport, the weather recorded at 0820 hrs showed a surface wind of 190°/09 kt, visibility of 9 km and scattered cloud at 500 feet and 1,000 feet agl.

At 0828.04 hrs, the pilot of G-ASKS checked in with Ronaldsway Tower on frequency 118.9 MHz but was asked to recall on the Approach frequency 120.85 MHz. He did so and, after establishing contact, informed the Controller that he was VFR at 2,500 feet amsl, had 14 miles to run and wished to enter the Ronaldsway Zone at Laxey; this is one of the visual reporting points used by aircraft making an approach to the Airport. The controller approved a VFR approach and passed the latest weather and altimeter settings for the Airport to the pilot. This included the information that there was scattered cloud at 500 feet agl and scattered cloud at 1,000 feet agl. Thereafter, the controller broadcast a weather special on his frequency; the only change was that the cloud at 1,000 feet agl was now broken and this information was acknowledged by the pilot of G-ASKS. By now, the controller had noticed from his radar display that G-ASKS was tracking inland on a westerly heading and asked the pilot to confirm that he was "Still on top?". The pilot replied with the information that he was now descending to 1,500 feet amsl and had 8 miles to run; the controller then asked him to call when he had

the airfield in sight. Shortly afterwards, at 0832.54 hrs, the controller asked G-ASKS to confirm that he was going through a hole and the pilot replied in the affirmative. All radio messages from G-ASKS were given in a normal voice without any apparent evidence of stress. No other transmissions were heard from the aircraft and, following unsuccessful attempts to make contact with it, beginning at 0833.50 hrs, overdue action was commenced at 0839 hrs; the controller had noted the last radar return approximately 7 miles north of Ronaldsway. At approximately this time, various individuals on the ground heard an aircraft in the area, although none saw anything. These witnesses were all unanimous that the weather was very poor in the area of Slieau Ruy. One witness who lives approximately one mile to the east of the crash site, reported that he heard an aircraft flying low and directly overhead on a westerly heading; he then heard it turning and power being applied before the engine noise suddenly stopped.

Shortly after the loss of radio contact, another aircraft was diverted to the area to attempt to make contact with G-ASKS. He was unsuccessful and reported that the weather on the west coast was clear but that inland there was almost solid cloud cover. Following the alerting action, three SAR helicopters and a mountain rescue team from RAF Valley were involved in the search, together with other ground parties from the IOM but, with the low cloud and poor visibility on the hills, the wreckage was not discovered until 1224 hrs by one of the ground search parties.

The subsequent post-mortem examination of the pilot showed no evidence of any medical condition which could have influenced the accident.

Aircraft description

The Cessna 336 is a twin-engined, high-wing aircraft of aluminium construction, with a fixed tricycle landing gear. Two Continental IO-360-A engines with variable-pitch propellers are installed, one at the front of the fuselage driving a conventional tractor propeller, and the other at the rear driving a pusher propeller. G-ASKS's cabin was configured with six-seats. The navigation installation consisted of twin VOR, single DME, ADF and satellite GPS (Global Positioning System), and an ATC radar transponder.

Aircraft background

The aircraft was bought by a Blackpool maintenance company in 1988 while partially dismantled and restored to flying condition. At this point it had accumulated a total flying time of 1,814 hours since new. It was reportedly bought by the accident pilot in around 1990. The Blackpool maintenance organisation had continued to maintain the aircraft until the time of the accident. The last Certificate of

Airworthiness renewal was on 22 December 1994 at a total flying time of 1,990 hours since new and times since overhaul of 1,240 hours for the front engine and 464 hours for the rear engine.

No operation subsequent to the 1994 Certificate of Airworthiness renewal had been entered in the Aircraft, Engine or Propeller Log Books and the Technical and Journey Log contained no record of flights after May 1995. The maintenance organisation's records suggested that around 40 to 50 additional hours had been flown at the time of the accident. These records showed that relatively minor defects that had affected rear and front engine operation respectively had been rectified on 4 August and 14 September 1995 and suggested that the aircraft had not suffered an abnormal history of problems.

Crash site

Examination of ground marks showed that G-ASKS first contacted the ground on the east side of Slieau Ruy, near the centre of the Isle of Man at an altitude of 1,250 feet above mean sea level. Slieau Ruy summit, 0.24 nm (nautical miles) to the west, rises to 1,571 feet. The initial impact point was 8.0 nm bearing 019°M from Ronaldsway Airport.

The terrain at initial ground contact was relatively smooth and firm heather-covered ground with a slope of 10° upwards along the aircraft's track and 18° downwards to the right normal to track. Crash site and wreckage examination showed that the aircraft first struck the ground in level flight on a track of 312°M while erect and essentially level in pitch and roll and with little yaw. After a short distance the nose landing gear leg and then both main legs collapsed, the left outer wing contacted the vegetation and a sharp left yaw developed. Extensive sliding and tumbling of the aircraft followed, resulting in severe break-up and a 120 metre long trail of wreckage, along the impact track. The right wing and tail boom detached and came to rest part way along the trail with the two collie dogs nearby, reportedly in the area where the pilot was found. The left wing, the cockpit remains and the rear engine came to rest near the end of the trail, 65 ft above the level of the initial impact. The forward engine was thrown beyond the main wreckage and rolled down the hillside for around 300 metres. There was no fire. The spread of wreckage and the degree of break-up were indicative of a substantial initial impact speed, judged at in the order of 100 to 120 kt.

Detailed strip inspection of the aircraft was not considered relevant in the known circumstances of the accident. Examination of the wreckage on site and during retrieval indicated that at initial impact the communication radios had been on, with one selected to the Ronaldsway Approach frequency of 120.85 MHz; one navigation radio had been tuned to the IOM VOR frequency of 112.20 MHz but was found selected off; the radar transponder had been selected to the 7000 code. Indications from the

GPS showed that it had been on and correctly indicating the aircraft's position and its range and bearing from Ronaldsway Airport. No map was found at the crash site. Markings indicated that both propellers had been rotating at moderately high speed, although the blade pitch angle could not be determined, and there was evidence that both fuel tanks had contained appreciable quantities of fuel. The aircraft had been complete at initial impact and no evidence was found from the examinations conducted to suggest pre-accident failure or malfunction. The evidence indicated that it had struck the hillside in level flight at normal speed.